

Golder Associates Inc.

200 Union Boulevard, Suite 500
Lakewood, CO USA 80228
Telephone (303) 980-0540
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Site:	West Lake Bluff
ID#:	M300799 60932
Break:	10.9 on #2
Other:	Progress Report
	9-8-95

September 8, 1995

Our Ref: 943-2848.601

U.S. Environmental Protection Agency
Region VII
WSTM/SPFD/REML
726 Minnesota Avenue
Kansas City, Kansas 66101

Attention: Mr. Steven Kinser

**RE: MONTHLY PROGRESS REPORT - AUGUST 1995
WEST LAKE (BRIDGETON) LANDFILL
OPERABLE UNIT 2 RI/FS**

Dear Mr. Kinser:

On behalf of Laidlaw Waste Systems, Inc. (Laidlaw), Golder Associates Inc. (Golder) has prepared the following progress report in accordance with Section XIII, Paragraph 39 of the Administrative Order on Consent (Consent Order), EPA Docket No. VII-94-F-0025. The progress report describes activities conducted in August 1995.

I. ACTIONS TAKEN TO COMPLY WITH THE CONSENT ORDER

The following activities were performed in August 1995:

- Hydrogeologic characterization continued near the active solid waste landfill.



40056622
SUPERFUND RECORDS

The following table summarizes the hydrogeologic characterization activities completed through August 1995:

Piezometer/Borehole Designation	Total Depth (feet below ground surface)	Soil/Rock Sampling Interval (feet below ground surface)	Screened Interval (feet below ground surface)
PZ-100-KS	391.2	0 - 391.2	374 - 384
PZ-100-SD	246	235.3 - 246	235 - 245
PZ-100-SS	94.5	78.9 - 94.5	74 - 94
PZ-101-SS	140.5	0 - 140.5	129.5 - 139.5
PZ-102-SS	90	0 - 90	80 - 90
PZ-102R-SS	90	0-90	80-90
PZ-103-SS	145.5	0 - 144.3	134.5 - 144.5
PZ-104-SS	145	135-145	134.4-144.5
PZ-104-KS	408	0 - 408	397-407
PZ-104-SD	255	245-255	235-245
PZ-105-SS	149	0 - 149	139 - 149
PZ-106-KS	375	0 - 375	364 - 374
PZ-106-SD	201	191 - 201	191 - 201
PZ-106-SS	165	155 - 165	155 - 165
PZ-107-SS	104	0 - 104	93 - 103
PZ-108-SS	144	0 - 144	133.5 - 143.5
PZ-109-SS	135.7	0-135.7	125.7 - 135.7
PZ-110-SS	141	0 - 141	101 - 111
PZ-111-KS	368.8	0 - 368.8	357 - 367
PZ-111-SD	209.9	199.9 - 209.9	199.4 - 209.4
PZ-112-AS	36	0 - 36	29.6 - 34.6
PZ-113-AD	108.5	0 - 108.5	98.5 - 108.5
PZ-113-AS	40	0 - 40	28.9 - 38.9
PZ-113-SS	159.4	114.6 - 159.4	149 - 159
PZ-114-AS	30	0 - 30	20 - 30
PZ-115-SS	84.7	0 - 84.7	74.5 - 84.5
PZ-116-SS	162.5	0-162.5	151-161
PZ-200-SS	98.7	0 - 98.7	9.5 - 97.5
PZ-201-SS	90	0 - 90	10 - 90
PZ-201A-SS	90	80 - 90	80 - 90
PZ-202-SS	92	0-92	40 - 90

Piezometer/Borehole Designation	Total Depth (feet below ground surface)	Soil/Rock Sampling Interval (feet below ground surface)	Screened Interval (feet below ground surface)
PZ-203-SS	110	0 - 110	99.5-109.5
PZ-204-SS	90.5	0 - 90.5	11 - 91
PZ-204A-SS	90	80-90	79.5-89.5
PZ-205-SS	85.5	54-99.5	74.5-84.5
PZ-206-SS	125	0 - 125	115 - 125
PZ-207-AS	40	0 - 40	34.9 - 39.9
PZ-208-SS	99	0-99	88.5-98.5

Approximate drilling locations are shown on Figure 5-3 of the final "RI/FS Work Plan, West Lake Landfill, Operable Unit 2, Bridgeton, Missouri" (referred to as the final "RI/FS Work Plan"). Consistent with the approach presented in the final "RI/FS Work Plan," the deepest boring in each piezometer cluster was continuously sampled. Other borings in a cluster were sampled only near the screened interval.

During August, no additional piezometers were drilled or installed. Field activities conducted in August included continued slug testing and piezometer development.

The final "Sampling and Analysis Plan" for Operable Unit 2 was submitted to the EPA for receipt on August 1, 1995.

II. VALIDATED RESULTS RECEIVED

The attached Table 1 lists water level data collected from the piezometers installed as part of the Operable Unit 2 RI/FS as well as previously existing monitoring wells near the active solid waste landfill. Table 1 includes data collected from June through August, 1995.

III. WORK PLANNED DURING SEPTEMBER AND OCTOBER 1995

Activities planned for September and October 1995 include the following:

- Hydrogeologic characterization activities near the active solid waste landfill will continue, including collection of monthly water levels; and,
- Initiation of drilling and sampling associated with the "300-series" piezometers (described in Section 5.2.4.1 of the final Operable Unit 2 RI/FS Work Plan) is expected to occur in September.

IV. MATERIAL PROBLEMS ENCOUNTERED OR ANTICIPATED MATERIAL DELAYS

No material delays were encountered in August, and none are anticipated for September or October 1995.

If you have any questions or comments, please contact Mr. Doug Borro, the Respondent's designated Project Coordinator, or the undersigned.

Sincerely,

GOLDER ASSOCIATES INC.



Ward E. Herst, CPHG, CEM
Program Director - Hydrology
Associate

WEH/ked

cc: Michael Hockley, Esq., Spencer Fane Britt & Browne
Doug Borro, Laidlaw Waste Systems, Inc.
Doug Wagner, Laidlaw Waste Systems, Inc.
Dennis Wike, Laidlaw Waste Systems, Inc.
Larry Giroux, Laidlaw Waste Systems, Inc.

TABLE 1
GROUNDWATER ELEVATION SUMMARY

Piezometer	Date			
	6/27/95	7/10/95	7/26/95	8/26/95
	Groundwater Elevation			
Shallow Alluvial Piezometers				
PZ-112-AS	436.12	435.27	435.12	434.67
PZ-113-AS	435.64	435.44	435.30	434.63
PZ-114-AS	435.94	435.59	435.35	434.90
PZ-205-AS	434.41	434.40	434.33	434.06
PZ-207-AS	435.94	435.41	435.41	434.91
Deep Alluvial Piezometer				
PZ-113-AD	435.68	435.47	435.13	433.74
St. Louis/Upper Salem Hydrologic Unit Piezometers				
PZ-100-SS	405.36	415.59	416.06	415.23
PZ-101-SS	393.23	394.34	394.58	393.37
PZ-102-SS	413.54	416.50	NC	NC
PZ-102R-SS	403.09	418.31	424.30	424.87
PZ-103-SS	363.03	353.33	373.02	363.73
PZ-104-SS	340.67	345.78	360.04	366.22
PZ-105-SS	336.26	336.35	339.83	352.45
PZ-106-SS	359.72	357.56	357.60	364.20
PZ-107-SS	434.52	428.41	434.30	434.00
PZ-108-SS	368.99	367.58	368.99	367.02
PZ-109-SS	370.70	373.01	373.74	360.45
PZ-110-SS	413.76	433.30	433.53	433.27
PZ-113-SS	435.70	435.54	435.23	434.79
PZ-115-SS	426.75	426.58	424.83	424.18
PZ-116-SS	NA	347.42	346.79	356.46
PZ-200-SS	415.05	415.48	415.45	415.59
PZ-201-SS	456.42	456.42	455.53	454.86
PZ-201A-SS	415.03	415.03	414.63	414.38
PZ-202-SS	444.36	445.00	444.78	444.14
PZ-203-SS	375.33	374.97	(DRY)	(DRY)
PZ-204-SS	442.82	442.32	441.49	438.10
PZ-204A-SS	NA	399.36	405.65	405.53
PZ-205-SS	424.46	424.22	424.04	423.45

Notes provided on Page 2

TABLE 1
GROUNDWATER ELEVATION SUMMARY

Piezometer	Date			
	6/27/95	7/10/95	7/26/95	8/26/95
	Groundwater Elevation			
PZ-206-SS	420.04	419.57	419.04	418.22
PZ-208-SS	NA	436.77	436.44	435.60
PZ-1201-SS	NA	427.32	392.33	365.30
MW-1204	333.83	336.19	330.01	357.27
MW-1205	352.28	355.99	357.38	296.81
MW-1206	368.19	367.91	367.12	367.86
Deep Salem Piezometers				
PZ-100-SD	394.61	398.79	370.68	381.79
PZ-104-SD	359.05	358.46	356.64	362.97
PZ-106-SD	358.64	357.31	353.52	361.98
PZ-111-SD	373.70	408.06	423.87	428.55
Keokuk Piezometers				
PZ-100-KS	438.17	438.85	438.93	437.84
PZ-104-KS	444.63	444.76	444.74	444.27
PZ-106-KS	442.18	442.51	442.51	442.48
PZ-111-KS	441.58	441.78	441.91	442.01

NOTES:

NA = Not available, water level data was not collected on the indicated date either because the piezometer had not yet been installed, development was not completed, or the piezometer was inactive.

All elevations provided in feet above Mean Sea Level (MSL)

Golder Associates Inc.

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Site: <u>West Lake LDF</u>
ID # <u>MOD07990093A</u>
Break: <u>10.9 OVA</u>
Other: <u>Progress Report</u>
<u>10-9-95</u>



RECEIVED

OCT 10 1995

SUPERFUND DIVISION

TRANSMITTAL LETTER

DATE: October 9, 1995
PROJECT NO.: 943-2848.601

TO: U.S. Environmental Protection Agency
Region VII
WSTM/SPFD/REML
726 Minnesota Avenue
Kansas City, Kansas 66101

Attention: Mr. Steven Kinser

SENT BY: Federal Express - Priority

QUANTITY	ITEM	DESCRIPTION
1	Copy	Monthly Progress Report - September 1995 West Lake (Bridgeton) Landfill
1	Copy	Operable Unit 2 RI/FS Table 1 - Groundwater Elevation Summary
REMARKS:		

Per Ward E. Herst, CPHG, CEM

Golder Associates Inc.

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Lakewood, CO USA 80228
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October 9, 1995

Our Ref: 943-2848.601

U.S. Environmental Protection Agency
Region VII
WSTM/SPFD/REML
726 Minnesota Avenue
Kansas City, Kansas 66101

Attention: Mr. Steven Kinser

**RE: MONTHLY PROGRESS REPORT - SEPTEMBER 1995
WEST LAKE (BRIDGETON) LANDFILL
OPERABLE UNIT 2 RI/FS**

Dear Mr. Kinser:

On behalf of Laidlaw Waste Systems, Inc. (Laidlaw), Golder Associates Inc. (Golder) has prepared the following progress report in accordance with Section XIII, Paragraph 39 of the Administrative Order on Consent (Consent Order), EPA Docket No. VII-94-F-0025. The progress report describes activities conducted in September 1995.

I. ACTIONS TAKEN TO COMPLY WITH THE CONSENT ORDER

The following activities were performed in September 1995:

- ▶ Drilling and installation of the 300-series piezometers was initiated. The 300-series piezometers are described in Section 5.2.4.1 of the final "RI/FS Work Plan, West Lake Landfill, Operable Unit 2, Bridgeton, Missouri" (referred to as the final "RI/FS Work Plan").

The following table summarizes the 300-series drilling and installation activities completed through September 1995:

Piezometer/Borehole Designation	Total Depth (feet below ground surface)	Soil/Rock Sampling Interval (feet below ground surface)	Screened Interval (feet below ground surface)
PZ-300-AS	20.0	10.0-20.0	10-20
PZ-300-AD	42.8	30.0-42.8	37-42
PZ-300-SS	95.0	41.0-95.0	84-94
PZ-302-AS	22.3	0.0-22.0	12-22
PZ-302-AI	42.0	22.0-42.0	32.5-42.5
PZ-309-AS	28.0	0.0-28.0	17-27

Approximate drilling locations are shown on Figure 5-3 of the final "RI/FS Work Plan". Consistent with the approach presented in the final "RI/FS Work Plan," the deepest boring in each piezometer cluster is continuously sampled. Other borings in a cluster are sampled only near the screened interval.

The final "Sampling and Analysis Plan" for Operable Unit 2 was submitted to the EPA for receipt on August 1, 1995. Through September, EPA comments on the final "Sampling and Analysis Plan" were pending.

II. VALIDATED RESULTS RECEIVED

The attached Table 1 lists water level data collected from the piezometers installed as part of the Operable Unit 2 RI/FS as well as previously existing monitoring wells near the active solid waste landfill. Table 1 includes data collected from June through September, 1995. The 300-series piezometers will be added to Table 1 after development.

III. WORK PLANNED DURING OCTOBER AND NOVEMBER 1995

Activities planned for October and November 1995 include the following:

- ▶ Hydrogeologic characterization activities associated with additional 300-series piezometers, leachate wells, and soil borings; and,
- ▶ Collection of monthly water levels.

IV. MATERIAL PROBLEMS ENCOUNTERED OR ANTICIPATED MATERIAL DELAYS

No material delays were encountered in September, and none are anticipated for October or November 1995.

If you have any questions or comments, please contact Mr. Doug Borro, the Respondent's designated Project Coordinator, or the undersigned.

Sincerely,

GOLDER ASSOCIATES INC.



Ward E. Herst, CPHG, CEM
Program Director - Hydrology
Associate

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cc: Michael Hockley, Esq., Spencer Fane Britt & Browne
Doug Borro, Laidlaw Waste Systems, Inc.
Doug Wagner, Laidlaw Waste Systems, Inc.
Larry Giroux, Laidlaw Waste Systems, Inc.

TABLE 1
GROUNDWATER ELEVATION SUMMARY
BRIDGETON ACTIVE SANITARY LANDFILL

Piezometer	Date				
	6/27/95	7/10/95	7/26/95	8/26/95	9/30/95
	Groundwater Elevation				
Shallow Alluvial Piezometers					
PZ-112-AS	436.12	435.27	435.12	434.67	432.84
PZ-113-AS	435.64	435.44	435.30	434.63	432.91
PZ-114-AS	435.94	435.59	435.35	434.90	433.06
PZ-205-AS	434.41	434.40	434.33	434.06	432.52
PZ-207-AS	435.94	435.41	435.41	434.91	433.02
Deep Alluvial Piezometer					
PZ-113-AD	435.68	435.47	435.13	433.74	432.89
St. Louis/Upper Salem Hydrologic Unit Piezometers					
PZ-100-SS	405.36	415.59	416.06	415.23	414.35
PZ-101-SS	393.23	394.34	394.58	393.37	390.00
PZ-102-SS	413.54	416.50	INACTIVE	INACTIVE	INACTIVE
PZ-102R-SS	403.09	418.31	424.30	424.87	422.80
PZ-103-SS	363.03	353.33	373.02	363.73	360.95
PZ-104-SS	340.67	345.78	360.04	366.22	361.01
PZ-105-SS	336.26	336.35	339.83	352.45	346.80
PZ-106-SS	359.72	357.56	357.60	364.20	349.41
PZ-107-SS	434.52	428.41	434.30	434.00	432.36
PZ-108-SS	368.99	367.58	368.99	367.02	352.14
PZ-109-SS	370.70	373.01	373.74	360.45	359.20
PZ-110-SS	413.76	433.30	433.53	433.27	431.57
PZ-113-SS	435.70	435.54	435.23	434.79	433.00
PZ-115-SS	426.75	426.58	424.83	424.18	417.06
PZ-116-SS	NA	347.42	346.79	356.46	338.17
PZ-200-SS	415.05	415.48	415.45	415.59	414.38
PZ-201-SS	456.42	456.42	455.53	454.86	453.55
PZ-201A-SS	415.03	415.03	414.63	414.38	412.94
PZ-202-SS	444.36	445.00	444.78	444.14	441.33
PZ-203-SS	(DRY)	(DRY)	(DRY)	(DRY)	(DRY)
PZ-204-SS	442.82	442.32	441.49	438.10	431.82
PZ-204A-SS	NA	399.36	405.65	405.53	404.05
PZ-205-SS	424.46	424.22	424.04	423.45	421.75

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BRIDGETON ACTIVE SANITARY LANDFILL

Piezometer	Date				
	6/27/95	7/10/95	7/26/95	8/26/95	9/30/95
	Groundwater Elevation				
PZ-206-SS	420.04	419.57	419.04	418.22	415.49
PZ-208-SS	NA	436.77	436.44	435.60	431.63
PZ-1201-SS	NA	427.32	392.33	365.30	377.98
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MW-1205	352.28	355.99	357.38	296.81	341.10
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Deep Salem Piezometers					
PZ-100-SD	394.61	398.79	370.68	381.79	366.35
PZ-104-SD	359.05	358.46	356.64	362.97	344.33
PZ-106-SD	358.64	357.31	353.52	361.98	348.44
PZ-111-SD	373.70	408.06	423.87	428.55	432.22
Keokuk Piezometers					
PZ-100-KS	438.17	438.85	438.93	437.84	434.72
PZ-104-KS	444.63	444.76	444.74	444.27	441.98
PZ-106-KS	442.18	442.51	442.51	442.48	440.30
PZ-111-KS	441.58	441.78	441.91	442.01	440.39

NOTES:

NA = Not available, water level data was not collected on the indicated date either because the piezometer had not yet been installed, or development was not yet completed.

PZ-102-SS was replaced by PZ-102R-SS, and is inactive.

All elevations provided in feet above Mean Sea Level (MSL)